Forestry Bulletin R8-FB/P 16 April 1985

United States Department of Agriculture
Forest Service

FOREST PEST MANAGEMENT

Technology Update

Southern Region, USDA Forest Service, 1720 Peachtree Rd., N.W. Atlanta, Ga. 30367

Forestry Pesticides Fact Sheet Number 4

EFFECTIVENESS OF HEXAZINONE AS A FORESTRY HERBICIDE

Hexazinone has proven to be a useful herbicide in southern forestry. Its effectiveness in controlling many woody and herbaceous weeds at application rates tolerated by pines provides foresters with a selective vegetation management tool. Hexazinone is an environmentally safe chemical because it is low in toxicity, is degraded readily, does not bioaccumulate; and does not impair water quality. It is registered for use in pine reforestation for site preparation, release from woody and herbaceous weeds, individual hardwood stem control, and herbaceous weed control. Formulations labeled for forestry use include a water-soluble powder (90 percent active ingredient), a water-dispersible liquid, and free-flowing granules (5- and 10-percent active ingredient.[1]

Hexazinone's effectiveness in controlling important forest weeds has been documented by a number of studies. The more important ones are listed in this fact sheet. Contact the authors of this fact sheet for a more complete list.

Hexazinone References

Barber, T. Georgia tests a new forest herbicide. In: Proceedings, Southern Weed Science Society; Champaign, IL: Weed Science Society of America; 1979; 32: 198-205.

Cantrell, Richard L.; Flinchum, D. M.; Neary, D.G. The effects of eight herbicides on turkey oak (Quercus laevis Walt.) topkill and sprouting. In: Proceedings, Southern Weed Science Society; Champaign, IL: Weed Science Society of America; 1984; 37: 142.

Fitzgerald, Charles H. Herbaceous weed control with hexazinone in loblolly pine (Pinus taeda) plantations. Weed Science. 27(6):583-588; 1979.

Fitzgerald, C. H.; Fortson, J..C. Application time effect of hexazinone for forest site preparation. In: Proceedings, Southern Weed Science Society; Champaign, IL: Weed Science Society of America; 1981; 34: 197-302

Gonzalez, F. Eugene. Southern pine release with hexazinone formulations. In: Proceedings, Southern Weed Science Society; Champaign, IL: Weed Science Society of America; 1983; 36: 223-229.

Gonzalez, F. Eugene; Webb, A.L. Weed tree control with hexazinone injections. In: Proceedings, Southern Weed Science Society; Champaign, IL: Weed Science Society of America; 1981; 34: 177.

Griswold, H.C.; Fitzgerald, C.H.; Presnell, R.F.; Gonzalez, F.E. Pine release with aerially applied liquid hexazinone. In: Proceedings, Southern Weed Science Society; Champaign, IL: Weed Science Society of America; 1984; 37: 230-233.

Griswold, H.C.; Gonzalez, F.E. Application of Velpar herbicide by banding in newly established plantations. In: Proceedings, Southern Weed Science Society. Champaign, IL: Weed Science Society of America; 1981; 34: 165-173.

Meyer, R.E.; Bovey, R.W. Hexazinone and other herbicides on Texas woody plants. Weed Science. 28: 358-362; 1980.

---

[1] Velpar herbicide, Velpar L®, Pronone® 5G, and Pronone® 10G.

Michael, J. L. Formulation, rate and season of application effects of hexazinone (Velpar® Gridball) on oak topkill. In: Proceedings, Southern Weed Science Society; Champaign, IL: Weed Science Society of America; 1980; 33: 110–113.

Michael, J.L. Effect of pellet size on defoliation and estimated kill of small stems treated with hexazinone. In: Proceedings, Southern Weed Science Society; Champaign, IL: Weed Science Society of America; 1981; 34: 192–196.

Michael, J. L. Impacts of rate of hexazinone application on survival and growth of loblolly pine. In: Proceedings, Southern Weed Science Society; Champaign, IL: Weed Science Society of America; 1984; 37: 210–212.

Miller, J. H. Soil-active herbicides for single-stem and stand hardwood control. In: Proceedings, Southern Weed Science Society; Champaign, IL: Weed Science Society of America; 1984; 37: 173–181.

Minogue, P. J.; Gjerstad, D.H.; Nelson, L. R.; Glover, G.R.; Knowe, S.A. Development of hexazinone formulations for pine release. In: Proceedings, Southern Weed Science Society; Champaign, IL: Weed Science Society of America; 1982; 35: 157–160.

Neary, D.G.; Bush, P.B.; Douglass, J.E. 2-, 4-, and 14-month efficacy of hexazinone for site preparation. In: Proceedings, Southern Weed Science Society; Champaign, IL: Weed Science Society of America; 1981; 34: 181–191.

Nelson, Larry D.; Pederson, Richard C.; Autry, Lanny L. ; Dudley, Stuart ; Walstad, John D. Impacts of herbaceous weeds in young loblolly pine plantations. Southern Journal of Applied Forestry. 5(3): 153–158; 1981.

Nickles, J.K.; Tauer, C.G.; Stritzke, J.F. Use of prescribed fire and hexazinone (Velpar) to thin understory stortleaf pine in an Oklahoma pine-hardwood stand. Southern Journal of Applied Forestry. 5(3): 124–127; 1981.

O'Laughlin, T. C.; Nelson, L.R.; Walstad, J. D.; Breland, J.H.; Voeller, J.E. Velpar and other preemergence herbicides for use in establishment of loblolly pine plantations. In: Proceedings, Southern Weed Science Society; 1976; 29: 262–268.

Parker, J.A. Control of single oak trees (Quercus spp.) with hexazinone pellets. In: Proceedings, Southern Weed Science Society; 1979; 32: 213–216.

Scifres, Charles J.; Rasmussen, Allen; Mutz, James L.; Koerth, Benjamin H. Susceptibility of selected woody plants to hexazinone on south Texas rangeland. Weed Science. 32: 482–488; 1984.

Webb, A.L.; Nelson, L.R.; Gjerstad, D.H. Loblolly pine release from brush competition with three hexazinone formulations in the Alabama Piedmont. In: Proceedings, Southern Weed Science Society; 1981; 34: 153–156.

The authors.—This fact sheet was prepared by Daniel G. Neary, USDA Forest Service, Southeastern Forest Experiment Station (904–392–1951) Jerry L. Michael, USDA Forest Service, Southern Forest Experiment Station (205–826–8700); Parshall B. Bush, University of Georgia (404–542–7690); and John W. Taylor, Jr., USDA Forest Service, Southern Region (404–881–2718). For further information, contact any of these authors at the listed telephone numbers.

The use of trade, firm, or corporation names in this publication is for the information and convenience of the reader. Such use does not constitute an official endorsement or approval by the U. S. Department of Agriculture of any product to the exclusion of others that may be suitable.

CAUTION: Use pesticides selectively and carefullly. Follow recommended practices for the disposal of surplus pesticides and pesticide containers. Some States have restrictions on the use of certain pesticides. Check your local and State regulations. Also, because registrations of pesticides are under constant review by the Environmental Protection Agency, consult your State forestry agency, county agent, or State extension agent to be sure the intended use is still registered.